

1 Claims 1-24 were pending at the time of the Office Action.

2 Claims 18-22 are allowed.

3 Claims 3, 4, 6-12 and 15-17 are objected to.

4 Claims 1, 2, 5, 13, 14, 23 and 24 are rejected under 35 U.S.C. §102(b).

5 No claims are canceled by the current response.

6 Please amend claims 1, 2, 8, 11, 12 and 18-22 as follows:

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8 **Clean Version Of The Pending Claims Under 37 C.F.R. §1.121(c)(3):**

9 In accordance with 37 C.F.R. §1.121(c)(3), claims 1-24 are submitted  
10 below as a clean version of the entire set of pending claims in this single  
11 amendment paper. In addition, a marked up version of amended claims 1, 2, 8, 11,  
12 12 and 18-22, showing all the changes relative to the previous version of these  
13 claims, is submitted on one or more pages separate from this amendment in  
14 accordance with 37 C.F.R. §1.121(c)(3).  
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16 1. (Amended) A computerized method for key-based secure storage  
17 comprising:

18 downloading information and an access predicate that specifies  
19 requirements for an application to access the information;

20 obtaining a storage key;

21 encrypting the information using the storage key; and

22 associating the access predicate with the encrypted information.  
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24 2. (Amended) The computerized method of claim 1, further  
25 comprising:

1 decrypting the information for access by an application only if the  
2 application meets the requirements specified in the access predicate.

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4 3. The computerized method of claim 1, wherein the storage key is an  
5 application storage key and obtaining the application storage key comprises:

6 generating a seed value;  
7 producing a hash seed value based on the seed value using a  
8 one-way hash function;  
9 and  
10 generating the application storage key from the hash seed value.

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12 4. The computerized method of claim 1, wherein the storage key is a  
13 user storage key

14 and obtaining the user storage key comprises:  
15 generating a seed value;  
16 producing a first hash seed value based on the seed value using a  
17 one-way hash function;  
18 producing a second hash seed value based on the seed value and a  
19 user identifier using a keyed hash function; and  
20 generating the user storage key from the second hash seed value.

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22 5. The computerized method of claim 1, further comprising:  
23 obtaining an operating system storage key; and  
24 encrypting the access predicate with the operating system storage  
25 key.

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2 6. The computerized method of claim 5, further comprising:  
3 encrypting a plurality of other storage keys using the operating  
4 system storage key, wherein the other storage keys are selected from the group  
5 consisting of application storage keys and user storage keys.  
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7 7. The computerized method of claim 5, wherein obtaining the  
8 operating system storage key comprises:  
9 generating a seed value; and  
10 generating the operating system storage key based on the seed value.  
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12 8. (Amended) The computerized method of claim 1, wherein the  
13 storage key comprises an application storage key and a user storage key to encrypt  
14 information containing portion specific to an application and a portion specific to a  
15 user, and obtaining the storage key comprises:  
16

17 generating a seed value for the application;  
18 producing an application hash seed value based on the seed value for  
19 the application using an application-specific one-way hash function;  
20 generating an application storage key from the application hash seed  
21 value;  
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23 generating a seed value for the user;  
24 producing a first user hash seed value based on the seed value for the  
25 user using a one-way hash function;  
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27 producing a second user hash seed value based on the first user hash  
28 seed value and a user identifier using a keyed hash function; and  
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generating a user storage key from the second user hash seed value.

9. The computerized method of claim 1, further comprising:  
storing the storage key in a key vault provided by a third-party; and  
recovering the storage key from the key vault.

10. The computerized method of claim 9, wherein recovering the storage  
key comprises:  
requesting recovery of the storage key; and  
providing information to the third-party to enable validation of the  
request.

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11. (Amended) The computerized method of claim 9, further  
comprising:  
selecting the key vault from a plurality of key vaults provided by a  
trusted operating system.

12. (Amended) The computerized method of claim 9, further  
comprising:  
selecting the key vault designated by a provider of the information.

13. The computerized method of claim I wherein the elements are  
performed in the order recited.

14. A computer system comprising:

1 a processing unit;  
2 a system memory coupled to the processing unit through a system  
3 bus;  
4 a computer-readable medium coupled to the processing unit through  
5 a system bus; and  
6 a generate key function executed from the computer-readable  
7 medium by the processing unit, wherein the generate key function causes the  
8 processing unit to generate an operating system storage key based on an identity  
9 for the operating system.

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11 15. The computer system of claim 14, wherein the operating system  
12 storage key is further based on a seed.

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14 16. The computer system of claim 14, further comprising:  
15 an application specific one-way hash function executed from the  
16 computer-readable medium by the processing unit, wherein the application  
17 specific one-way hash function causes the processing unit to generate an  
18 application storage key from a hashed seed; and

19 a generate application key function executed from the  
20 computer-readable medium by the processing unit, wherein the generate  
21 application key function causes the processing unit to generate the hashed seed  
22 from an application seed.

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24 17. The computer system of claim 14, further comprising:  
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1 a key-hash function executed from the computer-readable medium  
2 by the processing unit, wherein the key-hash function causes the processing unit to  
3 generate a user storage key from a hashed seed and an identity for the user;

4 a one-way hash function executed from the computer-readable  
5 medium by the processing unit, wherein the one-way hash function causes the  
6 processing unit to generate the hashed seed from a previously hashed seed; and

7 a generate user key function executed from the computer-readable  
8 medium by the processing unit, wherein the generate user key function causes the  
9 processing unit to generate the previously hashed seed from a user seed.

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11 18. (Amended) A computer system comprising:  
12 a processing unit;  
13 a system memory coupled to the processing unit through a system  
14 bus;  
15 a computer-readable medium coupled to the processing unit through  
16 a system bus; and  
17 a trusted operating system executed from the computer-readable  
18 medium by the processing unit, wherein the trusted operating system causes the  
19 processing unit to encrypt downloaded information using a storage key based on a  
20 seed value.

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22 19. (Amended) The computer system of claim 18, wherein the trusted  
23 operating system further causes the processing unit to encrypt an access predicate  
24 associated with the downloaded information using an operating system storage  
25 key, to encrypt the seed value for the storage key using the operating system

1 storage key, and to associate the encrypted access predicate with the encrypted  
2 seed value.

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4 20. (Amended) The computer system of claim 19, wherein the trusted  
5 operating system further causes the processing unit to validate each application  
6 requesting access to the downloaded information using the access predicate, and  
7 decrypts the seed value for use by a validated application.

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9 21. (Amended) The computer system of claim 18, wherein the storage  
10 key used to encrypt the downloaded information is specific to an application.

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12 22. (Amended) The computer system of claim 18, wherein the storage  
13 key used to encrypt the downloaded information is specific to a user.

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15 23. A computer-readable medium having computer-executable  
16 instructions stored thereon to cause a server computer to perform a method  
17 comprising:

18 entering into a secure connection with a client computer;  
19 obtaining a session key specific to the secure connection;  
20 encrypting data with the session key; and  
21 downloading the encrypted data to the client computer.

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23 24. A computer-readable medium having computer-executable  
24 instructions stored thereon to cause a client computer to perform a method  
25 comprising: